

## SEQUENCE LISTING

<110> FibroGen, Inc.  
 Yang, Chunlin  
 Chang, Robert  
 Olson, David  
 Polarek, James

<120> DRY TISSUE SEALANT COMPOSITIONS

<130> FP0302 US

<150> 60/415,309

<151> 2002-09-30

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<170> PatentIn version 3.2

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Pro Pro Gly Glu Pro Gly Gln Ala Gly Pro Ser Gly Pro Pro Gly Pro  
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Pro Gly Ala Ile Gly Pro Ser Gly Pro Ala Gly Lys Asp Gly Glu Ser  
 65 70 75 80

Gly Arg Pro Gly Arg Pro Gly Glu Arg Gly Leu Pro Gly Pro Pro Gly  
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Ile Lys Gly Pro Ala Gly Ile Pro Gly Phe Pro Gly Met Lys Gly His  
 100 105 110

Arg Gly Phe Asp Gly Arg Asn Gly Glu Lys Gly Glu Thr Gly Ala Pro  
 115 120 125

Gly Leu Lys Gly Glu Asn Gly Leu Pro Gly Glu Asn Gly Ala Pro Gly  
 130 135 140

Pro Met Gly Pro Arg Gly Ala Pro Gly Glu Arg Gly Arg Pro Gly Leu  
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Pro Gly Ala Ala Gly Ala Arg Gly Asn Asp Gly Ala Arg Gly Ser Asp  
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Gly Gln Pro Gly Pro Pro Gly Pro Pro Gly Thr Ala Gly Phe Pro Gly  
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Ser Pro Gly Ala Lys Gly Glu Val Gly Pro Ala Gly Ser Pro Gly Ser  
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Asn Gly Ala Pro Gly Gln Arg Gly Glu Pro Gly Pro Gln Gly His Ala  
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Gly Ala Gln Gly Pro Pro Gly Pro Pro Gly Ile Asn Gly Ser Pro Gly  
 225 230 235 240

Gly Lys Gly Glu Met Gly Pro Ala Gly Ile Pro Gly Ala Pro Gly Leu  
 245 250 255

Met Gly Ala Arg Gly Pro Pro Gly Pro Ala Gly Ala Asn Gly Ala Pro  
 260 265 270

Gly Leu Arg Gly Gly Ala Gly Glu Pro Gly Lys Asn Gly Ala Lys Gly  
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Glu Pro Gly Pro Arg Gly Glu Arg Gly Glu Ala Gly Ile Pro Gly Val  
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Pro Gly Ala Lys Gly Glu Asp Gly Lys Asp Gly Ser Pro Gly Glu Pro  
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Gly Ala Asn Gly Leu Pro Gly Ala Ala Gly Glu Arg Gly Ala Pro Gly  
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Phe Arg Gly Pro Ala Gly Pro Asn Gly Ile Pro Gly Glu Lys Gly Pro  
 340 345 350

Ala Gly Glu Arg Gly Ala Pro Gly Pro Ala Gly Pro Arg Gly Ala Ala  
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Gly Glu Pro Gly Arg Asp Gly Val Pro Gly Gly Pro Gly Met Arg Gly  
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Met Pro Gly Ser Pro Gly Gly Pro Gly Ser Asp Gly Lys Pro Gly Pro  
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Pro Gly Ser Gln Gly Glu Ser Gly Arg Pro Gly Pro Pro Gly Pro Ser  
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Gly Pro Arg Gly Gln Pro Gly Val Met Gly Phe Pro Gly Pro Lys Gly  
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Asn Asp Gly Ala Pro Gly Lys Asn Gly Glu Arg Gly Gly Pro Gly Gly  
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Pro Gly Pro Gln Gly Pro Pro Gly Lys Asn Gly Glu Thr Gly Pro Gln  
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Pro Pro Gly Pro Gln Gly Leu Gln Gly Leu Pro Gly Thr Gly Gly Pro  
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Gly Ala Pro Gly Ala Pro Gly Gly Lys Gly Asp Ala Gly Ala Pro Gly  
 515 520 525

Glu Arg Gly Pro Pro Gly Leu Ala Gly Ala Pro Gly Leu Arg Gly Gly  
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Ala Gly Pro Pro Gly Pro Glu Gly Gly Lys Gly Ala Ala Gly Pro Pro  
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Gly Pro Pro Gly Ala Ala Gly Thr Pro Gly Leu Gln Gly Met Pro Gly  
 565 570 575

Glu Arg Gly Gly Leu Gly Ser Pro Gly Pro Lys Gly Asp Lys Gly Glu  
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Pro Gly Gly Pro Gly Ala Asp Gly Val Pro Gly Lys Asp Gly Pro Arg  
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Gly Pro Thr Gly Pro Ile Gly Pro Pro Gly Pro Ala Gly Gln Pro Gly  
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Asp Lys Gly Glu Gly Gly Ala Pro Gly Leu Pro Gly Ile Ala Gly Pro  
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Arg Gly Ser Pro Gly Glu Arg Gly Glu Thr Gly Pro Pro Gly Pro Ala  
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Gly Phe Pro Gly Ala Pro Gly Gln Asn Gly Glu Pro Gly Gly Lys Gly  
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Glu Arg Gly Ala Pro Gly Glu Lys Gly Glu Gly Gly Pro Pro Gly Val  
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Ala Gly Pro Pro Gly Gly Ser Gly Pro Ala Gly Pro Pro Gly Pro Gln  
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Gly Val Lys Gly Glu Arg Gly Ser Pro Gly Gly Pro Gly Ala Ala Gly  
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Phe Pro Gly Ala Arg Gly Leu Pro Gly Pro Pro Gly Ser Asn Gly Asn  
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Pro Gly Pro Pro Gly Pro Ser Gly Ser Pro Gly Lys Asp Gly Pro Pro  
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Pro Lys Gly Asp Ala Gly Gln Pro Gly Glu Lys Gly Ser Pro Gly Ala  
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Gln Gly Pro Pro Gly Ala Pro Gly Pro Leu Gly Ile Ala Gly Ile Thr  
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Gly Ala Arg Gly Leu Ala Gly Pro Pro Gly Met Pro Gly Pro Arg Gly

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Gly Leu Ala Gly Thr Ala Gly Glu Pro Gly Arg Asp Gly Asn Pro Gly 850 855 860		
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Arg Gly Glu Asn Gly Ser Pro Gly Ala Pro Gly Ala Pro Gly His Pro 885 890 895		
Gly Pro Pro Gly Pro Val Gly Pro Ala Gly Lys Ser Gly Asp Arg Gly 900 905 910		
Glu Ser Gly Pro Ala Gly Pro Ala Gly Ala Pro Gly Pro Ala Gly Ser 915 920 925		
Arg Gly Ala Pro Gly Pro Gln Gly Pro Arg Gly Asp Lys Gly Glu Thr 930 935 940		
Gly Glu Arg Gly Ala Ala Gly Ile Lys Gly His Arg Gly Phe Pro Gly 945 950 955 960		
Asn Pro Gly Ala Pro Gly Ser Pro Gly Pro Ala Gly Gln Gln Gly Ala 965 970 975		
Ile Gly Ser Pro Gly Pro Ala Gly Pro Arg Gly Pro Val Gly Pro Ser 980 985 990		
Gly Pro Pro Gly Lys Asp Gly Thr Ser Gly His Pro Gly Pro Ile Gly 995 1000 1005		
Pro Pro Gly Pro Arg Gly Asn Arg Gly Glu Arg Gly Ser Glu Gly 1010 1015 1020		
Ser Pro Gly His Pro Gly Gln Pro Gly Pro Pro Gly Pro Pro Gly 1025 1030 1035		
Ala Pro Gly Pro Cys Cys Gly Gly Val Gly Ala Ala Ala Ile Ala 1040 1045 1050		

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Asp Glu 1070	Pro Met Asp Phe Lys 1075	Ile Asn Thr Asp Glu 1080	Ile Met Thr
Ser Leu 1085	Lys Ser Val Asn Gly 1090	Gln Ile Glu Ser Leu 1095	Ile Ser Pro
Asp Gly 1100	Ser Arg Lys Asn Pro 1105	Ala Arg Asn Cys Arg 1110	Asp Leu Lys
Phe Cys 1115	His Pro Glu Leu Lys 1120	Ser Gly Glu Tyr Trp 1125	Val Asp Pro
Asn Gln 1130	Gly Cys Lys Leu Asp 1135	Ala Ile Lys Val Phe 1140	Cys Asn Met
Glu Thr 1145	Gly Glu Thr Cys Ile 1150	Ser Ala Asn Pro Leu 1155	Asn Val Pro
Arg Lys 1160	His Trp Trp Thr Asp 1165	Ser Ser Ala Glu Lys 1170	Lys His Val
Trp Phe 1175	Gly Glu Ser Met Asp 1180	Gly Gly Phe Gln Phe 1185	Ser Tyr Gly
Asn Pro 1190	Glu Leu Pro Glu Asp 1195	Val Leu Asp Val Gln 1200	Leu Ala Phe
Leu Arg 1205	Leu Leu Ser Ser Arg 1210	Ala Ser Gln Asn Ile 1215	Thr Tyr His
Cys Lys 1220	Asn Ser Ile Ala Tyr 1225	Met Asp Gln Ala Ser 1230	Gly Asn Val
Lys Lys 1235	Ala Leu Lys Leu Met 1240	Gly Ser Asn Glu Gly 1245	Glu Phe Lys
Ala Glu 1250	Gly Asn Ser Lys Phe 1255	Thr Tyr Thr Val Leu 1260	Glu Asp Gly
Cys Thr 1265	Lys His Thr Gly Glu 1270	Trp Ser Lys Thr Val 1275	Phe Glu Tyr

Arg Thr Arg Lys Ala Val Arg Leu Pro Ile Val Asp Ile Ala Pro  
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Tyr Asp Ile Gly Gly Pro Asp Gln Glu Phe Gly Val Asp Val Gly  
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Pro Val Cys Phe Leu  
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Gln Gly Pro Pro Gly Glu Pro Gly Gln Ala Gly Pro Ser Gly Pro Pro  
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Gly Pro Pro Gly Ala Ile Gly Pro Ser Gly Pro Ala Gly Lys Asp Gly  
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Glu Ser Gly Arg Pro Gly Arg Pro Gly Glu Arg Gly Leu Pro Gly Pro  
 65 70 75 80

Pro Gly Ile Lys Gly Pro Ala Gly Ile Pro Gly Phe Pro Gly Met Lys  
 85 90 95

Gly His Arg Gly Phe Asp Gly Arg Asn Gly Glu Lys Gly Glu Thr Gly  
 100 105 110

Ala Pro Gly Leu Lys Gly Glu Asn Gly Leu Pro Gly Glu Asn Gly Ala  
 115 120 125

Pro Gly Pro Met Gly Pro Arg Gly Ala Pro Gly Glu Arg Gly Arg Pro  
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Gly Leu Pro Gly Ala Ala Gly Ala Arg Gly Asn Asp Gly Ala Arg Gly  
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Ser Asp Gly Gln Pro Gly Pro Pro Glv Pro Pro Glv Thr Ala Gly Phe

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Lys Gly Asn Asp Gly Ala Pro Gly Lys Asn Gly Glu Arg Gly Gly Pro  
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Gly Gly Pro Gly Pro Gln Gly Pro Pro Gly Lys Asn Gly Glu Thr Gly  
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Thr Gly Pro Pro Gly Pro Gln Gly Leu Gln Gly Leu Pro Gly Thr Gly  
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Gly Pro Pro Gly Glu Asn Gly Lys Pro Gly Glu Pro Gly Pro Lys Gly  
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Asp Ala Gly Ala Pro Gly Ala Pro Gly Gly Lys Gly Asp Ala Gly Ala  
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Gly Glu Pro Gly Gly Pro Gly Ala Asp Gly Val Pro Gly Lys Asp Gly  
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Pro Arg Gly Pro Thr Gly Pro Ile Gly Pro Pro Gly Pro Ala Gly Gln  
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Pro Gly Asp Lys Gly Glu Gly Gly Ala Pro Gly Leu Pro Gly Ile Ala  
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Pro Ala Gly Phe Pro Gly Ala Pro Gly Gln Asn Gly Glu Pro Gly Gly  
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Lys Gly Glu Arg Gly Ala Pro Gly Glu Lys Gly Glu Gly Gly Pro Pro  
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Gly Val Ala Gly Pro Pro Gly Gly Ser Gly Pro Ala Gly Pro Pro Gly  
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Pro Gln Gly Val Lys Gly Glu Arg Gly Ser Pro Gly Gly Pro Gly Ala  
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Ala Gly Phe Pro Gly Ala Arg Gly Leu Pro Gly Pro Pro Gly Ser Asn  
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Gly Asn Pro Gly Pro Pro Gly Pro Ser Gly Ser Pro Gly Lys Asp Gly  
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Pro Pro Gly Pro Ala Gly Asn Thr Gly Ala Pro Gly Ser Pro Gly Val  
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Ser Gly Pro Lys Gly Asp Ala Gly Gln Pro Gly Glu Lys Gly Ser Pro  
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Gly Ala Gln Gly Pro Pro Gly Ala Pro Gly Pro Leu Gly Ile Ala Gly  
 770 775 780

Ile Thr Gly Ala Arg Gly Leu Ala Gly Pro Pro Gly Met Pro Gly Pro  
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Arg Gly Ser Pro Gly Pro Gln Gly Val Lys Gly Glu Ser Gly Lys Pro  
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Leu Pro Gly Leu Ala Gly Thr Ala Gly Glu Pro Gly Arg Asp Gly Asn  
 835 840 845

Pro Gly Ser Asp Gly Leu Pro Gly Arg Asp Gly Ser Pro Gly Gly Lys  
 850 855 860

Gly Asp Arg Gly Glu Asn Gly Ser Pro Gly Ala Pro Gly Ala Pro Gly  
 865 870 875 880

His Pro Gly Pro Pro Gly Pro Val Gly Pro Ala Gly Lys Ser Gly Asp  
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Arg Gly Glu Ser Gly Pro Ala Gly Pro Ala Gly Ala Pro Gly Pro Ala  
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Gly Ser Arg Gly Ala Pro Gly Pro Gln Gly Pro Arg Gly Asp Lys Gly  
 915 920 925

Glu Thr Gly Glu Arg Gly Ala Ala Gly Ile Lys Gly His Arg Gly Phe  
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Pro Gly Asn Pro Gly Ala Pro Gly Ser Pro Gly Pro Ala Gly Gln Gln  
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Gly Ala Ile Gly Ser Pro Gly Pro Ala Gly Pro Arg Gly Pro Val Gly  
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Pro Ser Gly Pro Pro Gly Lys Asp Gly Thr Ser Gly His Pro Gly Pro  
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Ile Gly Pro Pro Gly Pro Arg Gly Asn Arg Gly Glu Arg Gly Ser Glu  
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 35 40 45

Pro Pro Gly Glu Pro Gly Gln Ala Gly Pro Ser Gly Pro Pro Gly Pro  
 50 55 60

Pro Gly Ala Ile Gly Pro Ser Gly Pro Ala Gly Lys Asp Gly Glu Ser  
 65 70 75 80

Gly Arg Pro Gly Arg Pro Gly Glu Arg Gly Leu Pro Gly Pro Pro Gly  
 85 90 95

Ile Lys Gly Pro Ala Gly Ile Pro Gly Phe Pro Gly Met Lys Gly His  
 100 105 110

Arg Gly Phe Asp Gly Arg Asn Gly Glu Lys Gly Glu Thr Gly Ala Pro  
 115 120 125

Gly Leu Lys Gly Glu Asn Gly Leu Pro Gly Glu Asn Gly Ala Pro Gly  
 130 135 140

Pro Met Gly Pro Arg Gly Ala Pro Gly Glu Arg Gly Arg Pro Gly Leu  
 145 150 155 160

Pro Gly Ala Ala Gly Ala Arg Gly Asn Asp Gly Ala Arg Gly Ser Asp  
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Gly Gln Pro Gly Pro Pro Gly Pro Pro Gly Thr Ala Gly Phe Pro Gly  
 180 185 190

Ser Pro Gly Ala Lys Gly Glu Val Gly Pro Ala Gly Ser Pro Gly Ser  
 195 200 205

Asn Gly Ala Pro Gly Gln Arg Gly Glu Pro Gly Pro Gln Gly His Ala  
 210 215 220

Gly Ala Gln Gly Pro Pro Gly Pro Pro Gly Ile Asn Gly Ser Pro Gly  
 225 230 235 240

Gly Lys Gly Glu Met Gly Pro Ala Gly Ile Pro Gly Ala Pro Gly Leu  
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Met Gly Ala Arg Gly Pro Pro Gly Pro Ala Gly Ala Asn Gly Ala Pro  
                           260  265  270

Gly Leu Arg Gly Gly Ala Gly Glu Pro Gly Lys Asn Gly Ala Lys Gly  
                           275  280  285

Glu Pro Gly Pro Arg Gly Glu Arg Gly Glu Ala Gly Ile Pro Gly Val  
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Pro Gly Ala Lys Gly Glu Asp Gly Lys Asp Gly Ser Pro Gly Glu Pro  
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Gly Ala Asn Gly Leu Pro Gly Ala Ala Gly Glu Arg Gly Ala Pro Gly  
                           325  330  335

Phe Arg Gly Pro Ala Gly Pro Asn Gly Ile Pro Gly Glu Lys Gly Pro  
                           340  345  350

Ala Gly Glu Arg Gly Ala Pro Gly Pro Ala Gly Pro Arg Gly Ala Ala  
                           355  360  365

Gly Glu Pro Gly Arg Asp Gly Val Pro Gly Gly Pro Gly Met Arg Gly  
                           370  375  380

Met Pro Gly Ser Pro Gly Gly Pro Gly Ser Asp Gly Lys Pro Gly Pro  
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Pro Gly Ser Gln Gly Glu Ser Gly Arg Pro Gly Pro Pro Gly Pro Ser  
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Gly Pro Arg Gly Gln Pro Gly Val Met Gly Phe Pro Gly Pro Lys Gly  
                           420  425  430

Asn Asp Gly Ala Pro Gly Lys Asn Gly Glu Arg Gly Gly Pro Gly Gly  
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Pro Gly Pro Gln Gly Pro Pro Gly Lys Asn Gly Glu Ala Gly Pro Gln  
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Gly Pro Pro Gly Pro Ala Gly Pro Gly Gly Asp Lys Gly Asp Thr Gly  
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Pro Pro Gly Pro Gln Gly Leu Gln Gly Leu Pro Gly Thr Gly Gly Pro  
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Pro Gly Glu Asn Gly Lys Pro Gly Glu Pro Gly Pro Lys Gly Asp Ala  
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Gly Ala Pro Gly Ala Pro Gly Gly Lys Gly Asp Ala Gly Ala Pro Gly  
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Glu Arg Gly Pro Pro Gly Leu Ala Gly Ala Pro Gly Leu Arg Gly Gly  
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Ala Gly Pro Pro Gly Pro Glu Gly Gly Lys Gly Ala Ala Gly Pro Pro  
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Gly Pro Pro Gly Ala Ala Gly Ala Pro Gly Leu Gln Gly Met Pro Gly  
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Pro Gly Gly Pro Gly Ala Asp Gly Val Pro Gly Lys Asp Gly Pro Arg  
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Gly Pro Ala Gly Pro Ile Gly Pro Pro Gly Pro Ala Gly Gln Pro Gly  
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Asp Lys Gly Glu Gly Gly Ala Pro Gly Leu Pro Gly Ile Ala Gly Pro  
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Arg Gly Ser Pro Gly Glu Arg Gly Glu Ala Gly Pro Pro Gly Pro Ala  
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Gly Phe Pro Gly Ala Pro Gly Gln Asn Gly Glu Pro Gly Gly Lys Gly  
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Glu Arg Gly Ala Pro Gly Glu Lys Gly Glu Gly Gly Pro Pro Gly Val  
 675 680 685

Ala Gly Pro Pro Gly Gly Ser Gly Pro Ala Gly Pro Pro Gly Pro Gln  
 690 695 700

Gly Val Lys Gly Glu Arg Gly Ser Pro Gly Gly Pro Gly Ala Ala Gly  
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Phe Pro Gly Ala Arg Gly Leu Pro Gly Pro Pro Glv Ser Asn Gly Asn

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730

735

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Gln Gly Pro Pro Gly Ala Pro Gly Pro Leu Gly Ile Ala Gly Ile Thr  
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Gly Ala Arg Gly Leu Ala Gly Pro Pro Gly Met Pro Gly Pro Arg Gly  
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Ser Pro Gly Pro Gln Gly Val Lys Gly Glu Ser Gly Lys Pro Gly Ala  
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Asn Gly Leu Ser Gly Glu Arg Gly Pro Pro Gly Pro Gln Gly Leu Pro  
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Gly Leu Ala Gly Thr Ala Gly Glu Pro Gly Arg Asp Gly Asn Pro Gly  
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Glu Ser Gly Pro Ala Gly Pro Ala Gly Ala Pro Gly Pro Ala Gly Ser  
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Arg Gly Ala Pro Gly Pro Gln Gly Pro Arg Gly Asp Lys Gly Glu Thr  
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Gly Glu Arg Gly Ala Ala Gly Ile Lys Gly His Arg Gly Phe Pro Gly  
 945 950 955 960

Asn Pro Gly Ala Pro Gly Ser Pro Gly Pro Ala Gly Gln Gln Gly Ala  
 965 970 975

Ile Gly Ser Pro Gly Pro Ala Gly Pro Arg Gly Pro Val Gly Pro Ser  
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Gly Pro Pro Gly Lys Asp Gly Thr Ser Gly His Pro Gly Pro Ile Gly  
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Ala Pro Gly Pro Cys Cys Gly Gly Val Gly Ala Ala Ala Ile Ala  
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Asp Glu Pro Met Asp Phe Lys Ile Asn Thr Asp Glu Ile Met Thr  
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Ser Leu Lys Ser Val Asn Gly Gln Ile Glu Ser Leu Ile Ser Pro  
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Asp Gly Ser Arg Lys Asn Pro Ala Arg Asn Cys Arg Asp Leu Lys  
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Phe Cys His Pro Glu Leu Lys Ser Gly Glu Tyr Trp Val Asp Pro  
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Asn Gln Gly Cys Lys Leu Asp Ala Ile Lys Val Phe Cys Asn Met  
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Glu Thr Gly Glu Thr Cys Ile Ser Ala Asn Pro Leu Asn Val Pro  
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Arg Lys His Trp Trp Thr Asp Ser Ser Ala Glu Lys Lys His Val  
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Trp Phe Gly Glu Ser Met Asp Gly Gly Phe Gln Phe Ser Tyr Gly  
                   1175                                  1180                                  1185

Asn Pro Glu Leu Pro Glu Asp Val Leu Asp Val Gln Leu Ala Phe  
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Leu Arg Leu Leu Ser Ser Arg Ala Ser Gln Asn Ile Thr Tyr His  
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 Cys Lys Asn Ser Ile Ala Tyr Met Asp Gln Ala Ser Gly Asn Val  
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 Lys Lys Ala Leu Lys Leu Met Gly Ser Asn Glu Gly Glu Phe Lys  
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 Ala Glu Gly Asn Ser Lys Phe Thr Tyr Thr Val Leu Glu Asp Gly  
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 Cys Thr Lys His Thr Gly Glu Trp Ser Lys Thr Val Phe Glu Tyr  
 1265 1270 1275  
 Arg Thr Arg Lys Ala Val Arg Leu Pro Ile Val Asp Ile Ala Pro  
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